

High Temperature Sensors Using Vertically Aligned ZnO Nanowires, Phase II

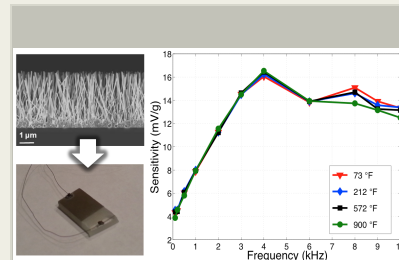
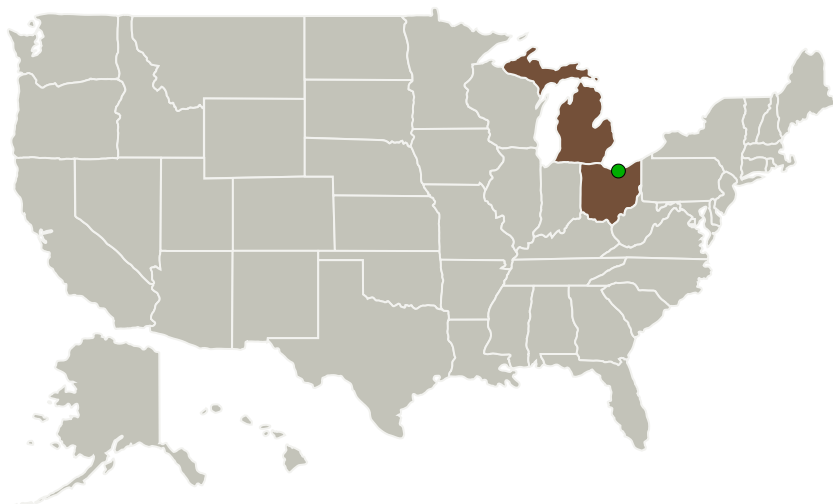
Completed Technology Project (2014 - 2016)



Project Introduction

NASA requires instrumentation technologies that can be applied to measure flow under extreme temperatures where traditional sensing methodologies cannot be used. The proposed Phase II SBIR research effort will seek to create wall shear sensors that can be applied to measure signals at temperatures in excess of 1,100

Primary U.S. Work Locations and Key Partners



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| Organizations Performing Work | Role | Type | Location |
|-------------------------------|-------------------------|-------------|---------------------|
| HARP Engineering, LLC | Lead Organization | Industry | Ann Arbor, Michigan |
| ● Glenn Research Center(GRC) | Supporting Organization | NASA Center | Cleveland, Ohio |

| Primary U.S. Work Locations | |
|-----------------------------|------|
| Michigan | Ohio |

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Project Transitions

April 2014: Project Start

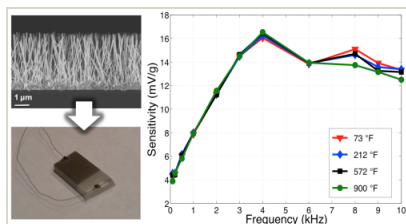
April 2016: Closed out

Closeout Summary: High Temperature Sensors Using Vertically Aligned ZnO Nanowires, Phase II Project Image

Closeout Documentation:

- Final Summary Chart Image(<https://techport.nasa.gov/file/137625>)

Images



Briefing Chart Image

High Temperature Sensors Using Vertically Aligned ZnO Nanowires, Phase II
(<https://techport.nasa.gov/image/125924>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

HARP Engineering, LLC

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

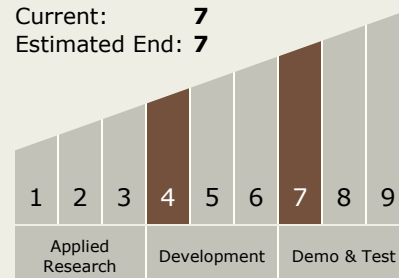
Carlos Torrez

Principal Investigator:

Timothy Shankwitz

Technology Maturity (TRL)

Start: **4**
Current: **7**
Estimated End: **7**



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Technology Areas

Primary:

- TX15 Flight Vehicle Systems
 - └ TX15.1 Aerosciences
 - └ TX15.1.1 Aerodynamics

Target Destinations

The Sun, Earth, The Moon,
Mars, Others Inside the Solar
System, Outside the Solar
System